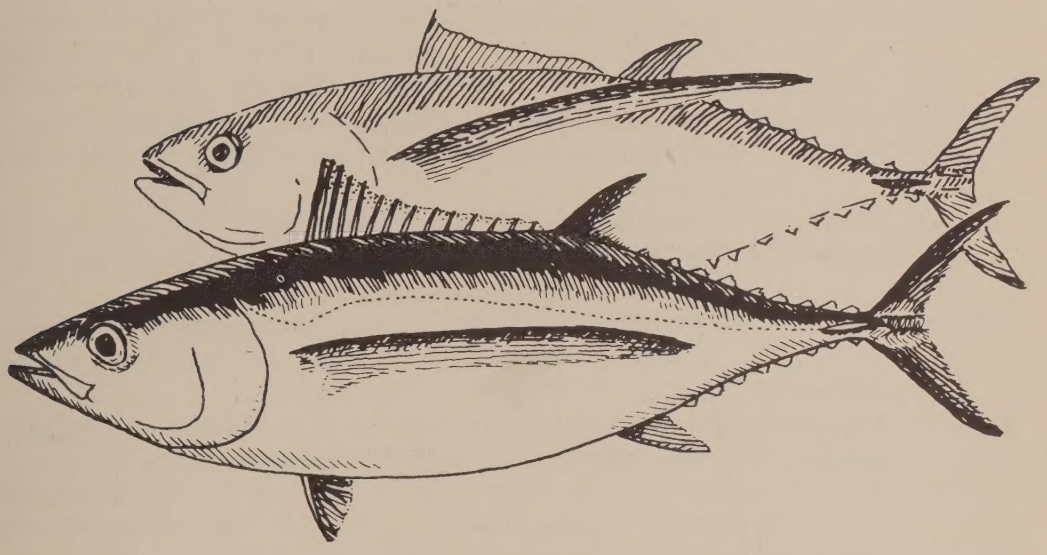
FISHING INFORMATION

AUGUST 1970



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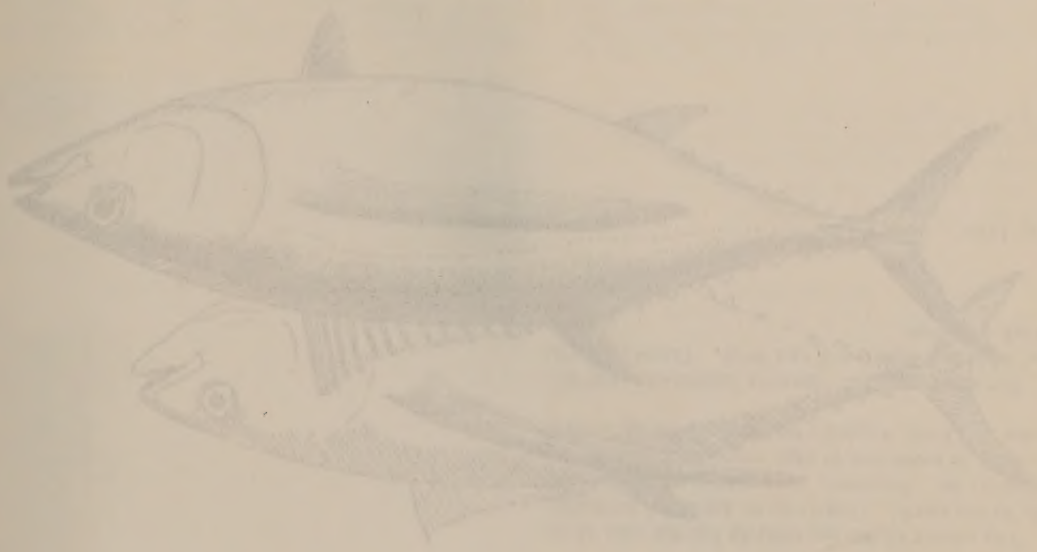
Sea Surface Temperature Charts,
Pacific Ocean, August 1970..... 1

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF COMMERCIAL FISHERIES
FISHERY-OCEANOGRAPHY CENTER
LA JOLLA, CALIFORNIA



FISHING INFORMATION

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
AUGUST 1970

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Environmental Science Services Administration

U. S. Weather Bureau, San Diego, California

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Living Marine Resources Inc., San Diego, California

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Scripps Institution of Oceanography, La Jolla, California, by Margaret Robinson

Scripps Institution of Oceanography Research Vessels ALEXANDER AGASSIZ, THOMAS WASHINGTON, FLIP, MELVILLE, ALPHA HELIX, OCONOSTOTA

University of Washington, Seattle, Washington; R/V THOMAS THOMPSON

Fishing Vessels CONNIE JEAN, CRUSADER

Pacific Environment Institute, West Vancouver, British Columbia, by H. J. Hollister from observations by G. C. Wilks at Langara Island Light; M. A. Fisher at Cape St. James Light; Lily Collins at Kains Island Lightstation; O. A. Edwards at Amphitrite Point Light

Charts

Figure 1.--Mean sea surface temperature, eastern north Pacific Ocean. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 2.--Mean sea surface temperature chart, western north Pacific Ocean. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 3.--Deviation of sea surface temperatures, eastern north Pacific Ocean from long term charts of H.O. 225. Hatched areas are colder in 1970.

Figure 4.--Deviation of sea surface temperatures, eastern north Pacific Ocean from those of August 1969. Hatched areas are colder in 1970.

Figure 5.--Mean sea surface temperature, eastern tropical Pacific Ocean. Numerals on shore are temperatures at coastal stations.

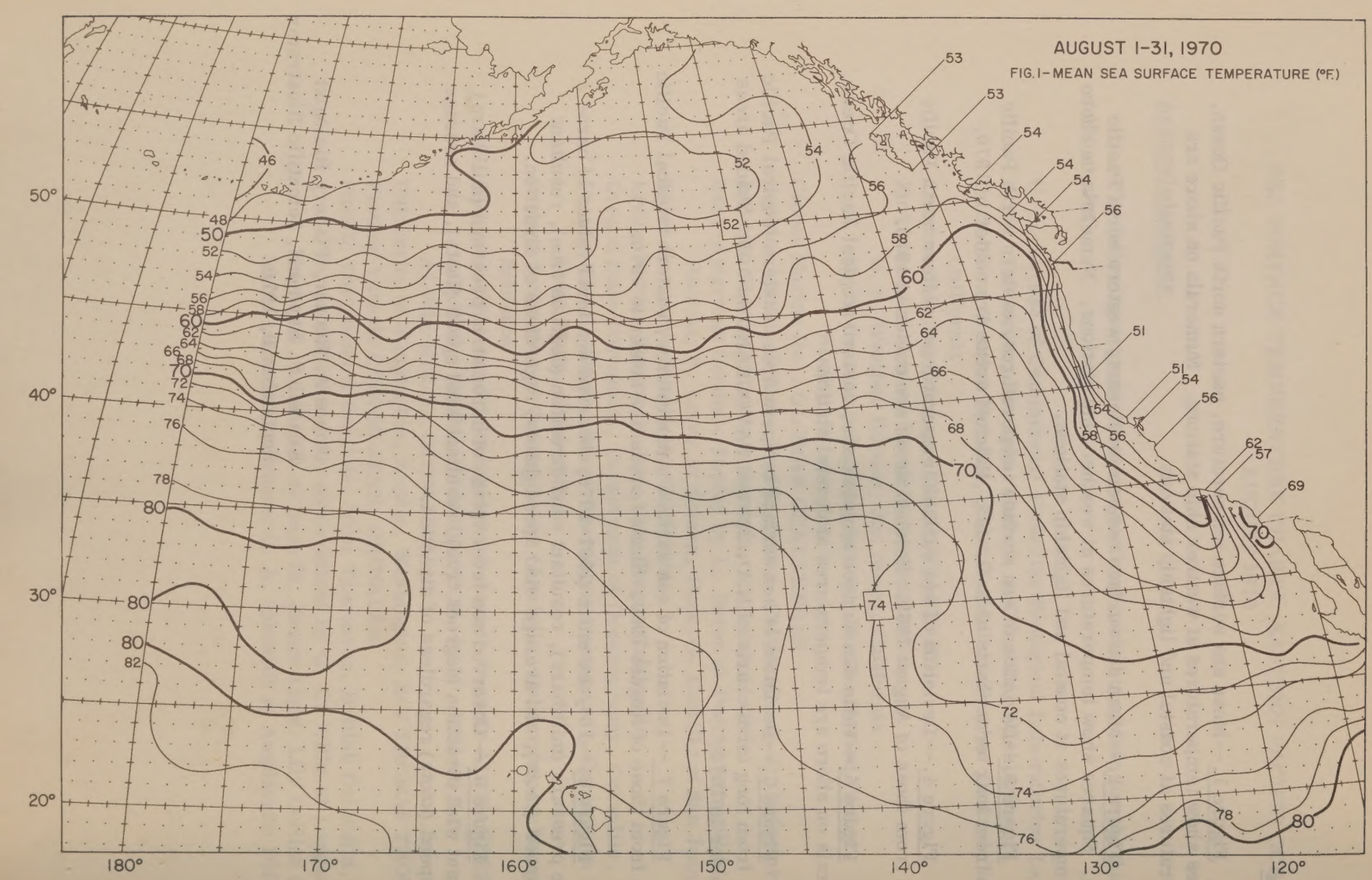
Figure 6.--Deviation of sea surface temperatures, eastern tropical Pacific Ocean from long term charts of H.O. 225 and NAVOCEANO sp-123. Shaded areas are colder in 1970.

Figure 7.--Deviation of sea surface temperatures, eastern tropical Pacific Ocean from those of August 1969. Shaded areas are colder in 1970.

Figure 8.--10-year mean (1961-1970) observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots), and average wind speed (knots) regardless of direction.

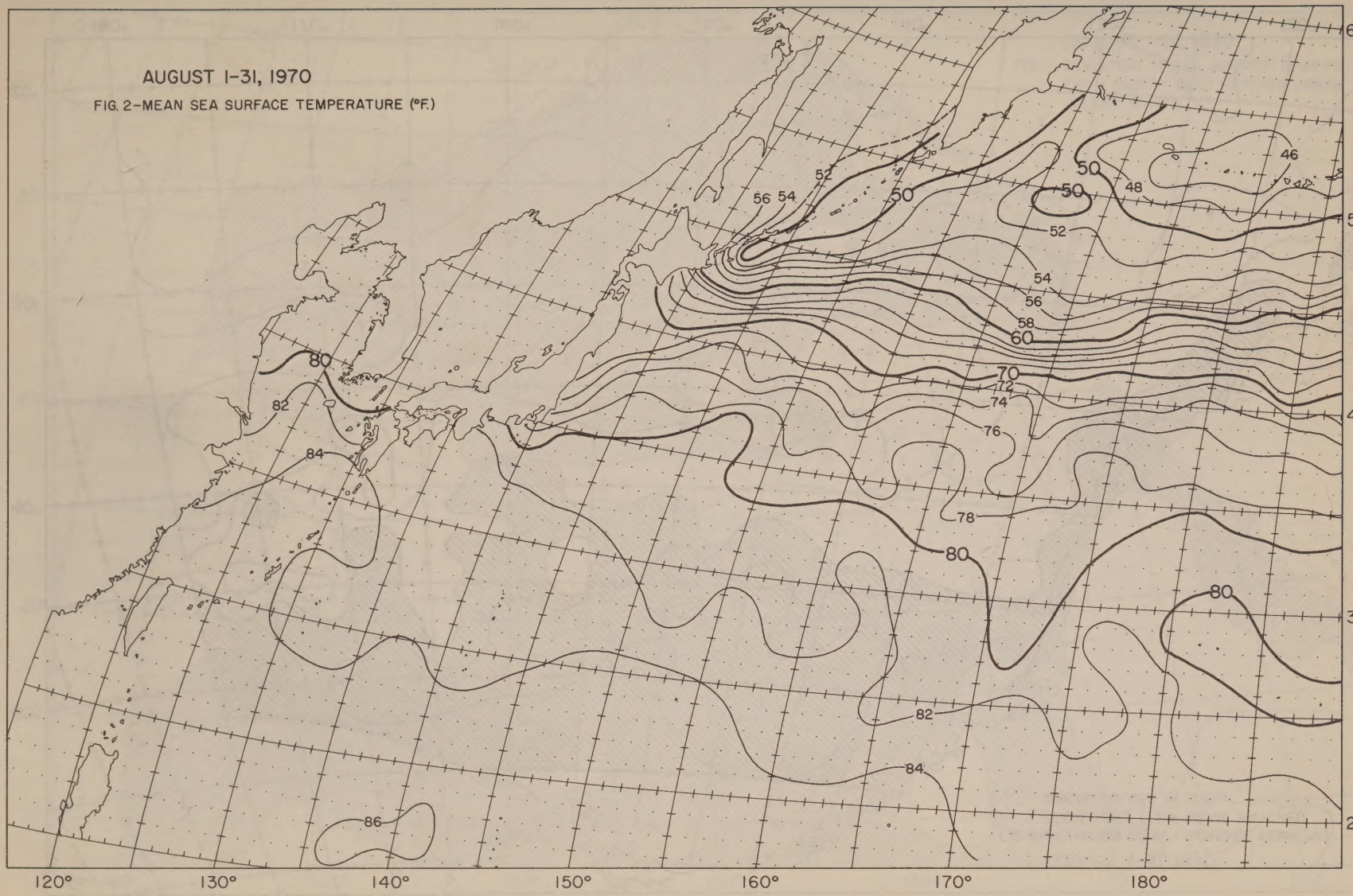
Figure 9.--Observed sea level values of barometric pressure (millibars), resultant wind direction (degrees true), resultant wind speed (knots), and average wind speed (knots) regardless of direction.

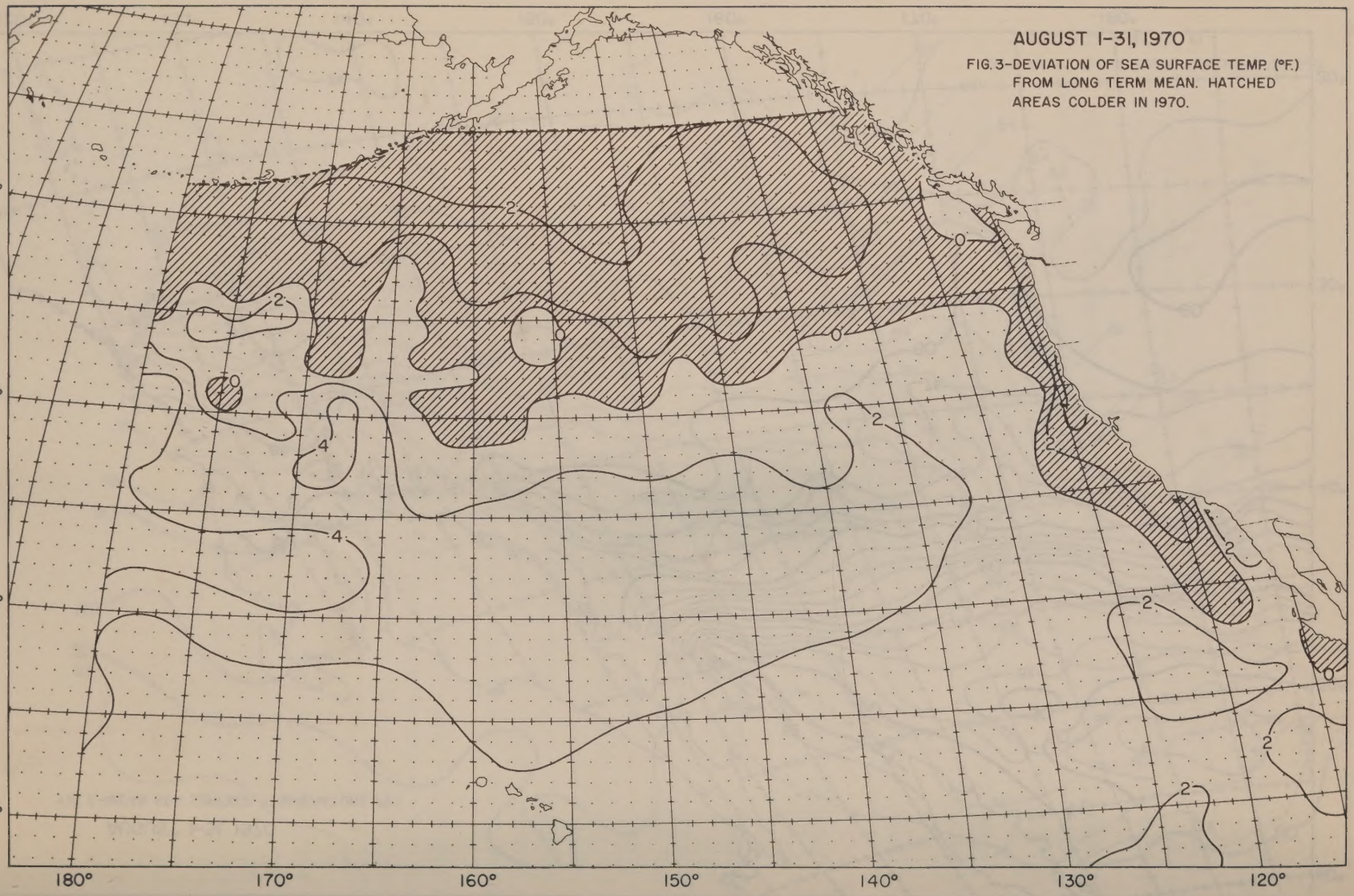
James A. Renner, Fishery Biologist
Kenneth S. Raymond, Scientific Illustrator
September 9, 1970

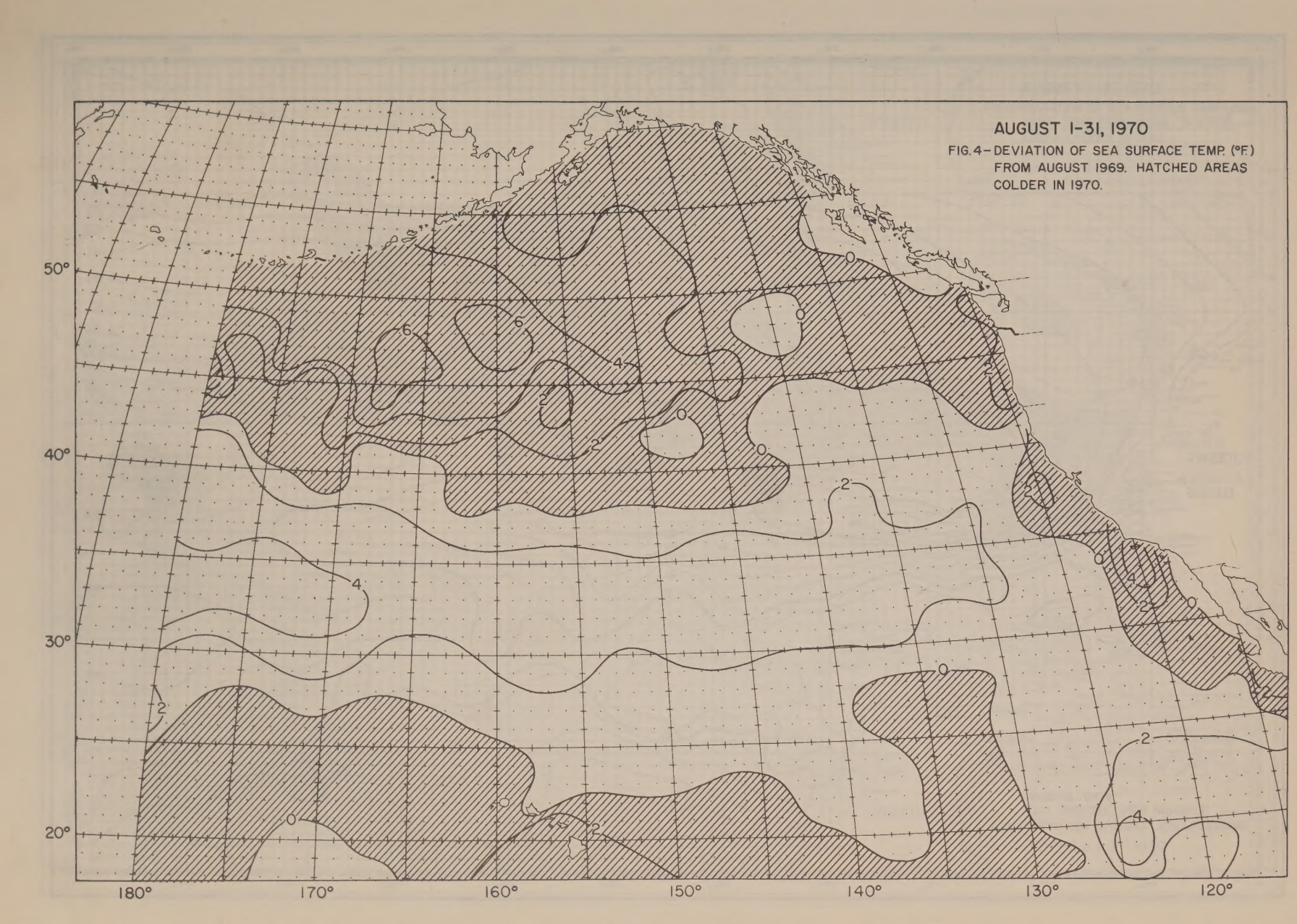

AUGUST 1-31, 1970
FIG.1-MEAN SEA SURFACE TEMPERATURE (°F.)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°

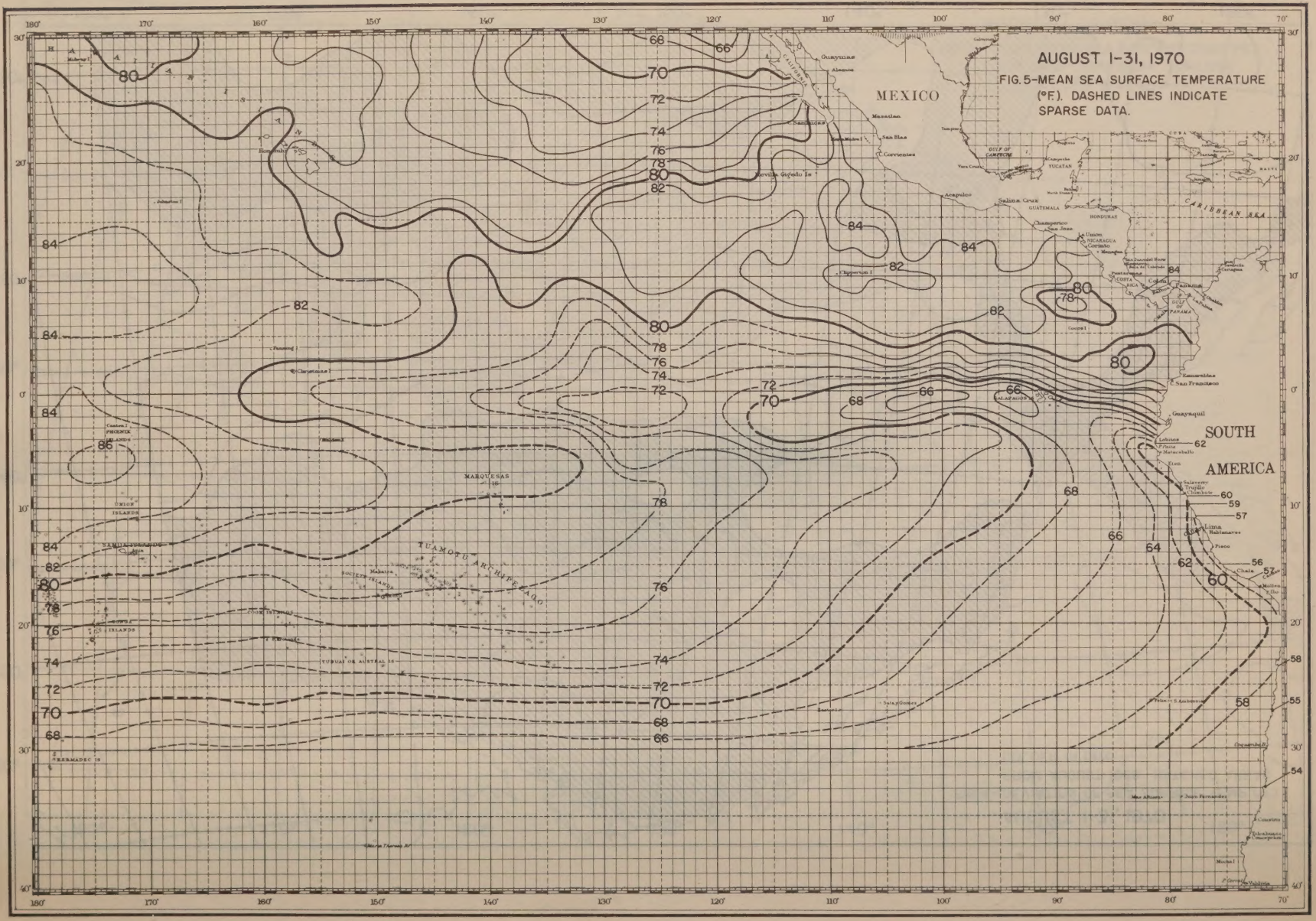
AUGUST 1-31, 1970

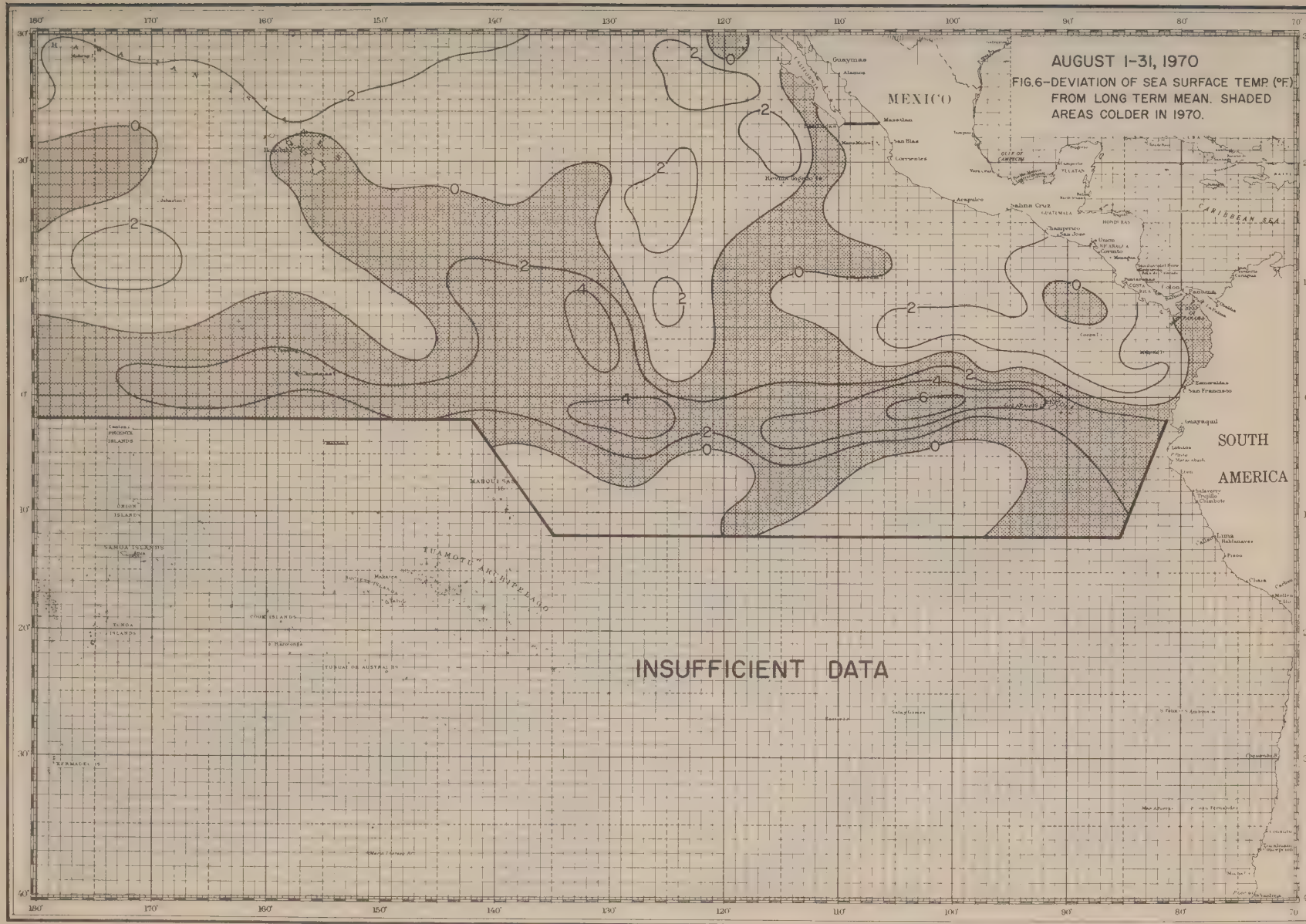
FIG. 2-MEAN SEA SURFACE TEMPERATURE (°F.)

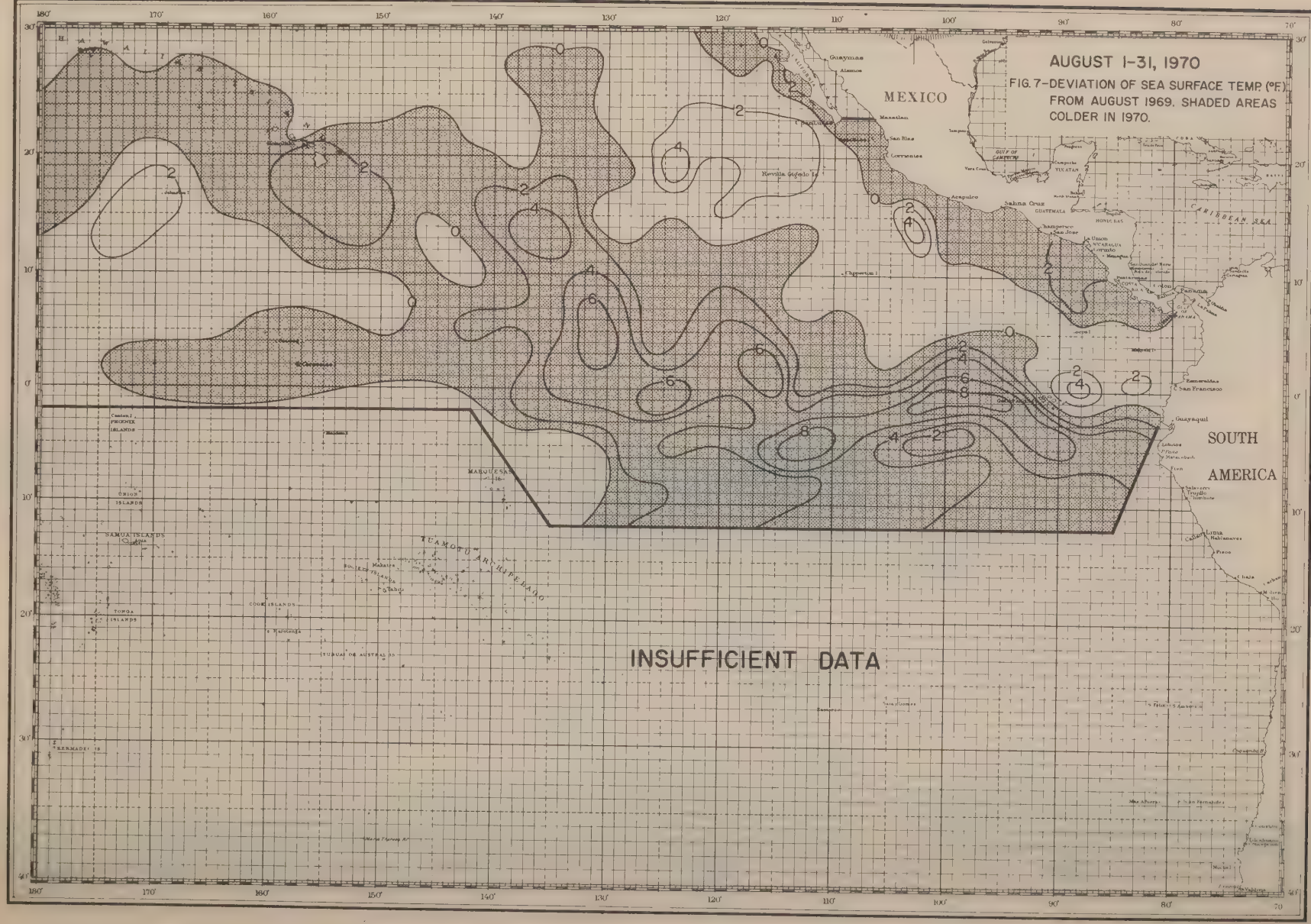


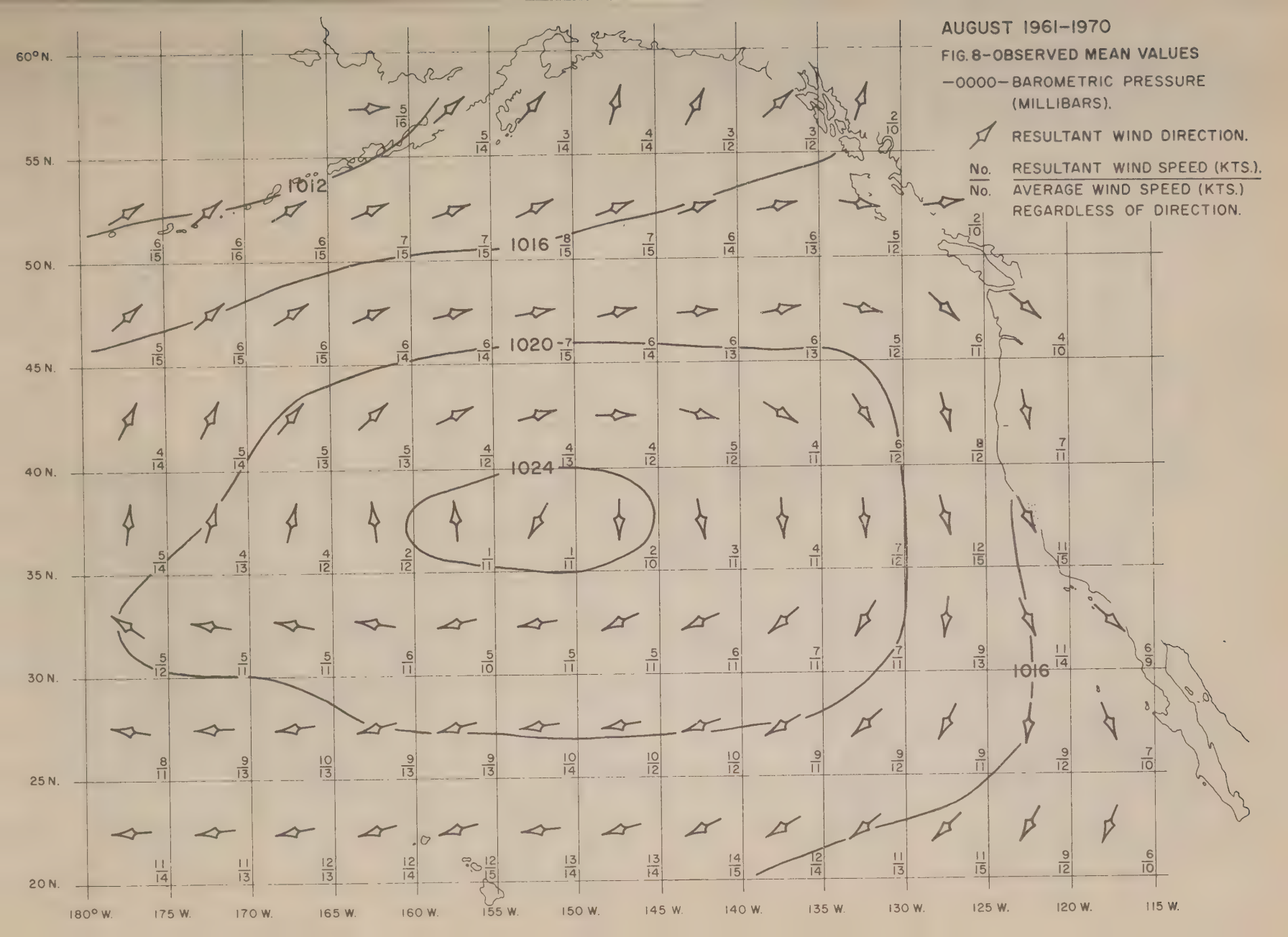

AUGUST 1-31, 1970
FIG. 3-DEVIATION OF SEA SURFACE TEMP. (°F.) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1970.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
2
0
2
0
0
2
4
2
2
4
2
2
0
2
2
0

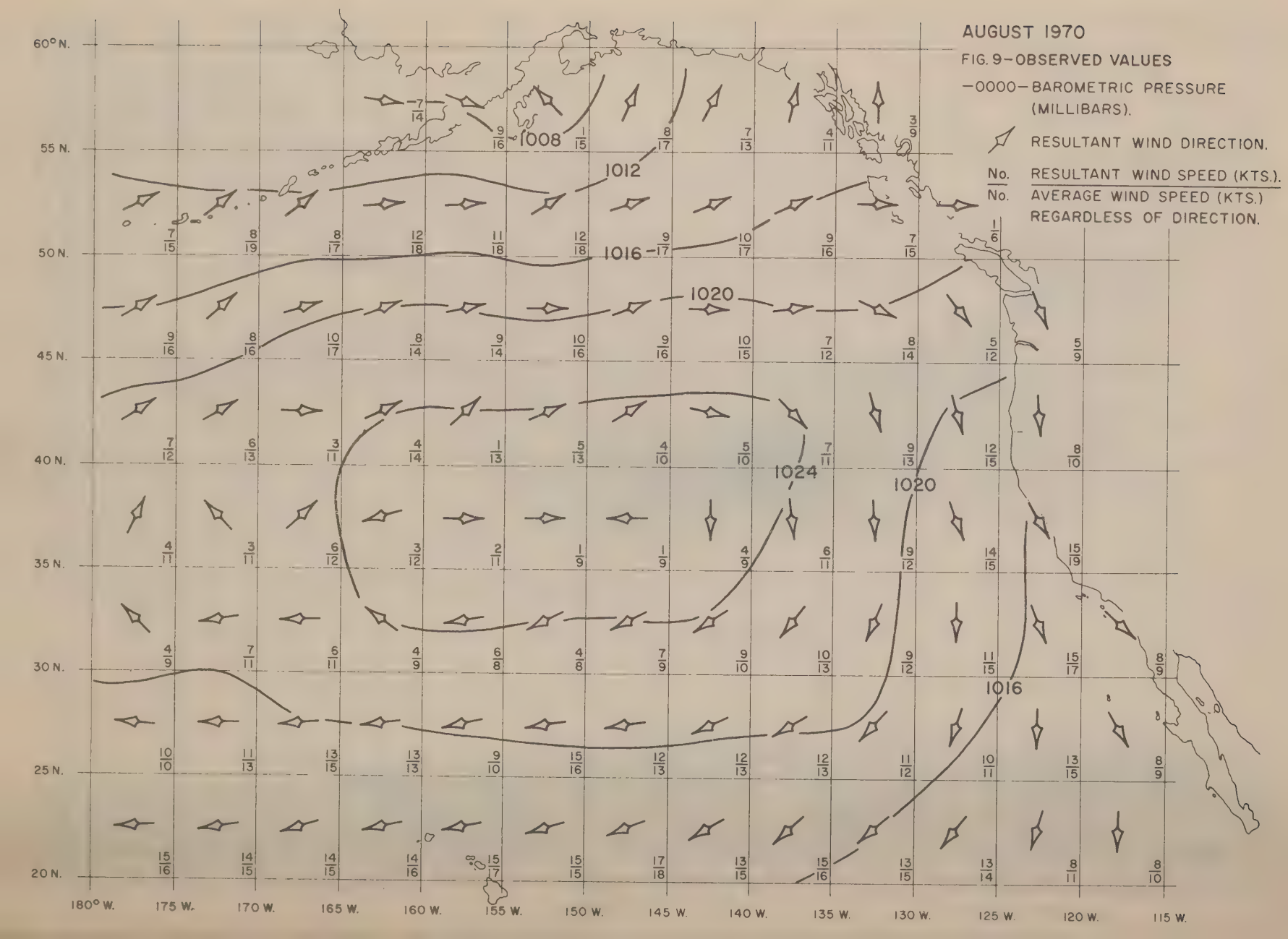

AUGUST 1-31, 1970
FIG. 4 - DEVIATION OF SEA SURFACE TEMP. (°F.) FROM AUGUST 1969. HATCHED AREAS COLDER IN 1970.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
6
6
4
2
0
0
0
2
2
4
0
2
0
4
2
0
2
0
2
4

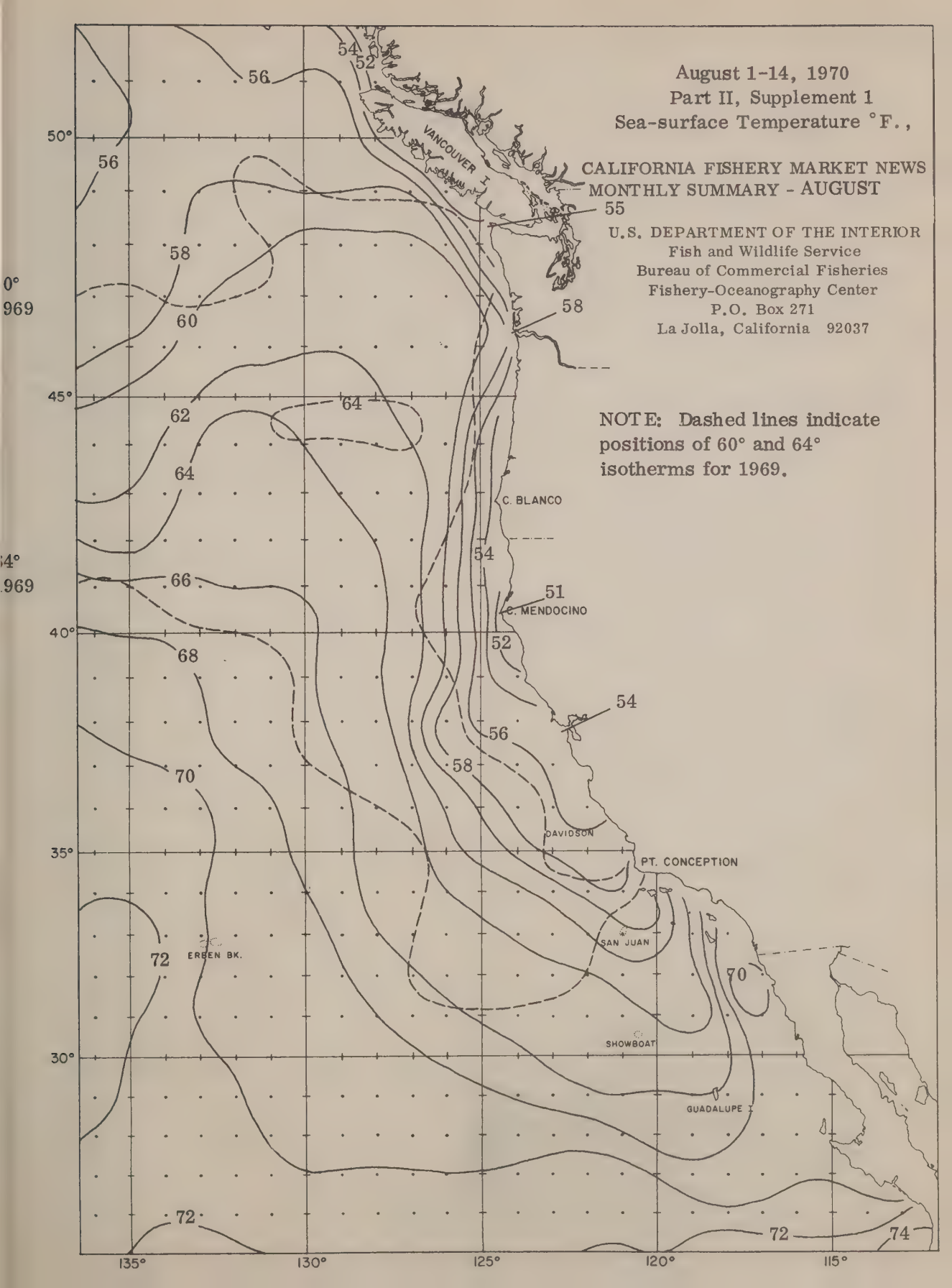

AUGUST 1-31, 1970
FIG. 5-MEAN SEA SURFACE TEMPERATURE (°F). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
TUAMOTU ARCHIPELAGO
MARQUESAS
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
40°

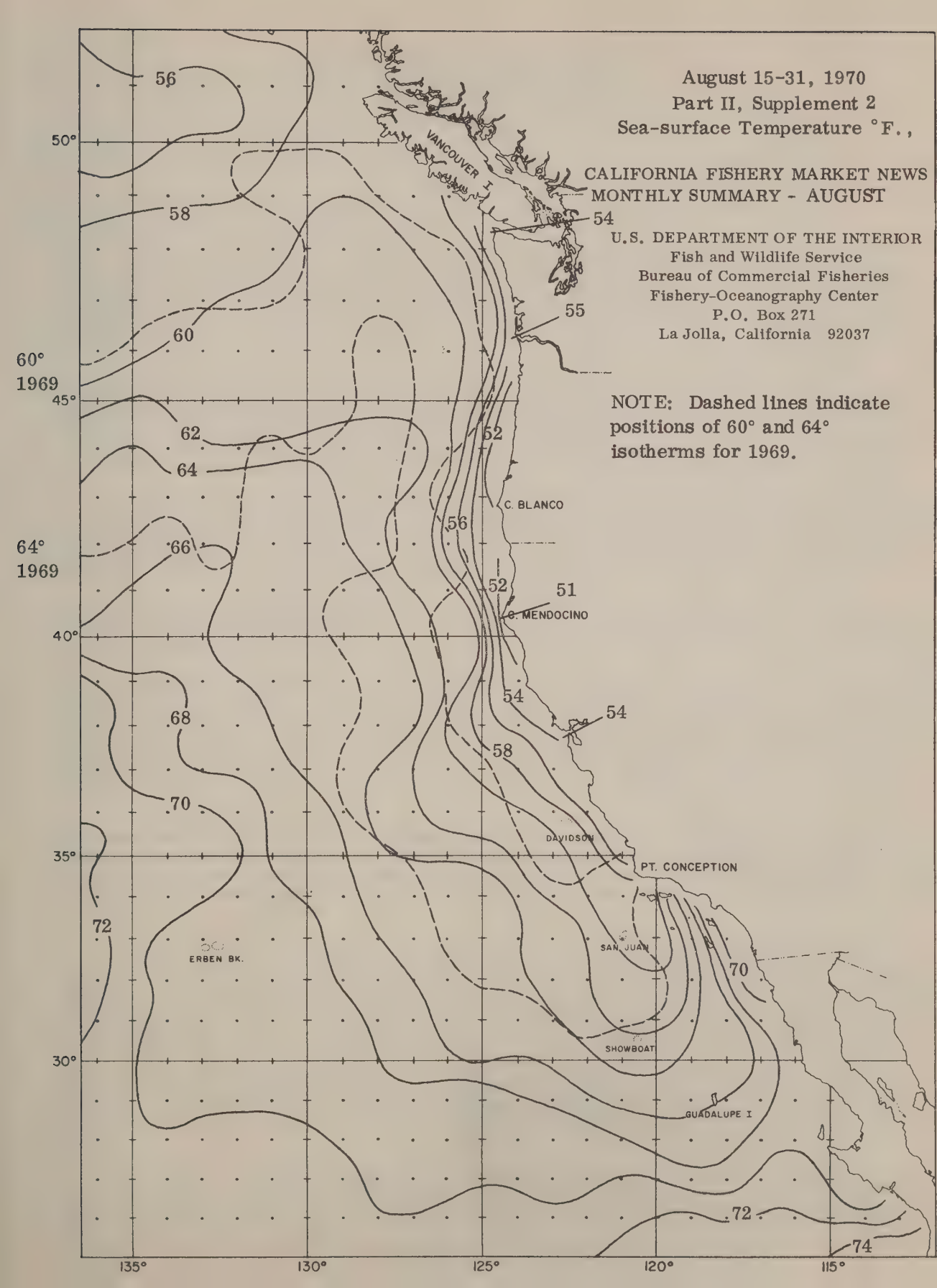

AUGUST 1-31, 1970
FIG.6-DEVIATION OF SEA SURFACE TEMP (°F) FROM LONG TERM MEAN. SHADED AREAS COLDER IN 1970.
INSUFFICIENT DATA
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
GALAPAGOS IS.
SAMOA ISLANDS
TUAMOTU ARCHIPELAGO
BERMUDA IS.
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
60°
50°
40°
30°
20°
10°
0°


AUGUST 1-31, 1970
FIG. 7-DEVIATION OF SEA SURFACE TEMP. (°F.) FROM AUGUST 1969. SHADED AREAS COLDER IN 1970.
INSUFFICIENT DATA
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
HAWAIIAN ISLANDS
TUAMOTU ARCHIPELAGO
MARQUESAS
SAMOA ISLANDS
COOK ISLANDS
TONGA ISLANDS
BERMUDA
Guaymas
Mazatlan
San Blas
Acapulco
Salina Cruz
Guayaquil
Lima
Callao
Pisco
Panama
Tahiti
Papeete


AUGUST 1961–1970
FIG. 8–OBSERVED MEAN VALUES
—0000— BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1012
1016
1020
1024
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.


AUGUST 1970
FIG. 9-OBSERVED VALUES
-0000- BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1008
1012
1016
1020
1024
1020
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.


August 1-14, 1970
Part II, Supplement 1
Sea-surface Temperature °F.,
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - AUGUST
U.S. DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Commercial Fisheries
Fishery-Oceanography Center
P.O. Box 271
La Jolla, California 92037
NOTE: Dashed lines indicate positions of 60° and 64° isotherms for 1969.
VANCOUVER I.
C. BLANCO
C. MENDOCINO
DAVIDSON
PT. CONCEPTION
SAN JUAN
SHOWBOAT
GUADALUPE I.
ERBEN BK.
50°
45°
40°
35°
30°
135°
130°
125°
120°
115°


August 15-31, 1970
Part II, Supplement 2
Sea-surface Temperature °F.,
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - AUGUST
U.S. DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Commercial Fisheries
Fishery-Oceanography Center
P.O. Box 271
La Jolla, California 92037
NOTE: Dashed lines indicate positions of 60° and 64° isotherms for 1969.
60° 1969
64° 1969
50°
45°
40°
35°
30°
135°
130°
125°
120°
115°
VANCOUVER I
C. BLANCO
C. MENDOCINO
DAVIDSON
PT. CONCEPTION
SAN JUAN
SHOWBOAT
GUADALUPE I
ERBEN BK.
56
58
60
62
64
66
68
70
72
74
54
55
52
51

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
BUREAU OF COMMERCIAL FISHERIES
Fishery-Oceanography Center
La Jolla, California 92037

BULLETIN NO. 70-4

ALBACORE FISHERY OFF OREGON COLLAPSES, APPEARS HEADED FOR CENTRAL CALIFORNIA

After record landings of over 4,000 tons of albacore for the month of July, the albacore fishing off Oregon collapsed during the first week of August. This event was unexpected and happened abruptly. Boats fishing in the vicinity of Columbia River, the area of best albacore fishing along the entire U.S. west coast during the last week in July, reported high scores of 800-1,300 fish on July 30, but dropped to an average of about 50 fish on July 31. The reasons for the apparent disappearance of albacore from the waters off the Pacific Northwest are not understood, but a possible explanation is given later.

In spite of large-scale scouting during the first week of August, fishermen were not able to get back on the fish in the offshore area from southern Oregon to Vancouver Island. However, indications of good fishing and fair weather were found off northern California on August 5. On that day a commercial boat picked up 135 fish offshore between Cape Mendocino and Eureka and R/V PROTEUS from Stanford University, while on an oceanographic cruise, located a very large concentration of albacore about 130 miles off Cape Mendocino. By August 7, a medium-size fishing fleet had gathered 60-70 miles offshore Cape Mendocino to Eureka and good scores again prevailed with most vessels reporting 200 fish per day.

Unfortunately, the traditional windy weather that usually occurs in this area during this time of the year resumed and caused most of the fleet to return to port at Eureka by August 9. High winds and sloppy seas have continued to seriously hamper fishing in this area. However, a portion of the fleet returned to sea off northern California by August 11, and reported good fishing in rough weather, and some boats reported that the fish appeared to be moving southward below Cape Mendocino. Strong winds have prohibited fishing activity in the vicinity south of Cape Mendocino.

On August 13, a sportboat scouting for albacore in the region 70-130 miles southwest of Morro Bay between the 1908 and 1901 fathom spots found a large area of albacore. In 2 days this sportboat caught 2-1/2 tons of albacore fishing two trolling lines and two rod and reels.

While the albacore fishing off Oregon ebbed during the first 2 weeks of August, it increased off southern California to the best level in about 3 years. R/V ELLEN B. SCRIPPS, of Scripps Institution of Oceanography, while on an oceanographic cruise, reported a large concentration of albacore 150 miles WSW of Cortez Bank on August 3. A small fleet began fishing near the 213 fathom spot off San Diego at about this same time and have averaged about 100 fish per day with some single day scores as high as 250 fish. Fishing has continued at this level for nearly the past 2 weeks and landings in San Diego are probably the best in 3 years. However, sea surface temperatures off southern California are warming to 70-75° F and are causing some concern that the albacore may either run deeper or move to cooler waters.

A westward shift of the 60° F isotherm between northern and central California is the result of intense coastal upwelling caused by the predominantly north-northwest winds along the coast south of Cape Blanco to Point Conception. Offshore, sea surface temperatures are 2-3° F warmer than last year between latitudes 30 and 42° N and west of longitude 128° W. Also, the area between the 60 and 66° F isotherms is much smaller than last year, keeping water with temperatures most favorable to albacore compressed into a narrow band perpendicular to the coast north of Cape Mendocino and parallel to the coast south of Cape Mendocino.

During the last 2 weeks of July, when record high albacore fishing was found off Oregon, and during most of the 1967-1969 albacore seasons, when the fishing was centered in the Pacific Northwest, an upper atmospheric ridge was located over the eastern Gulf of Alaska and western Canada which kept storm systems from entering the Pacific Northwest. The collapse of the fishing off Oregon during the first week in August was accompanied by the development of an upper atmospheric trough and subsequent formation of a series of low pressure systems over the Gulf of Alaska. This meteorological condition has allowed repeated minor storm systems to strike the Washington and Oregon coasts during the first 2 weeks of August. These storm systems have resulted in increased wind mixing and evaporation over the eastern Gulf of Alaska and off the Pacific Northwest and also transported cool water from the north southward. This has resulted in a retardation of the seasonal warming that normally occurs in the ocean off the Pacific Northwest during this time of year. Although the sea surface temperatures off Oregon and Washington are not sub-optimal for albacore it may be that this decrease in seasonal warming stimulated the albacore to migrate from the area or elicited a change in behavior so that the fish are not striking.

According to the Extended Forecast Division of the Weather Bureau, the upper level trough over the Gulf of Alaska is expected to persist during the next 2 weeks, allowing storm systems to develop and associated frontal bands to pass over the Pacific Northwest. Winds and seas during the passage will be moderate from the west-southwest off the Washington and Oregon coasts. Above average temperatures over inland regions of the Pacific Southwest will cause a deep thermal trough over the same area. This trough coupled with high pressure off California will create tight pressure gradients and strong north to northwest winds along the southern Oregon, northern and possibly central California coasts.

The best potential fishing grounds within the next 2 weeks should be in the central California region extending from San Juan Seamount to off Monterey. This area remains virtually unexplored during the first 2 weeks of August although scattered catches of albacore have been reported as close in as 30 miles off Pigeon Point and a relatively large catch was taken by a sportboat off Morro Bay. The offshore area between Eureka and Cape Mendocino should also yield good fishing if the northerly winds abate, however, weather conditions there will probably keep fishing activity low. At this time we do not anticipate that the fishery will move northward and redevelop off Oregon. Also we do not expect a major fishing area to develop off southern California because of warm water conditions.

Due to the current poor fishing off Oregon and the reduced fishing off northern California because of strong winds, the 1970 seasonal albacore landings will probably not be as high as they have been for the past 3 years and could total less than 20,000 tons.

The Western Fishboat Owners office in Astoria has shifted its single-sideband broadcast to 6210.4 kHz, still at about 1900 PDT daily.

For more detailed albacore information off the Oregon coast please see Oregon State University Albacore Central Fish Bulletins 70-G and 70-H. These materials should be available through most of the same outlets as the BCF Fish Bulletins.

August 14, 1970

Staff, Fishery-Oceanography Group
R. Michael Laurs, Leader

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE
BUREAU OF COMMERCIAL FISHERIES
Fishery-Oceanography Center
La Jolla, California 92037

BULLETIN NO. 70-5

ALBACORE JIG FISHING TRANSIENT IN CALIFORNIA WATERS, BAIT FISHING CONTINUES IN PACIFIC NORTHWEST

The albacore fishery has been transient during the past 15-day period. Boats have had to spend much time running to search for fish and to avoid rough weather. Consequently, no area along the Pacific coast has yielded consistently good albacore fishing. However, high jig-boat scores have been made on some days in California waters, and good catches have been reported on some days by bait boats fishing in the vicinity of the Columbia River and near the 213 fathom spot southwest of San Diego.

The best jig-fishing along the coast as of August 31 is 80-100 miles offshore from Cape Mendocino to Point Arena. Good fishing in this area resumed by August 24 when boats fishing 60 miles off Cape Mendocino reported high scores of 250-300 fish. A small fleet of boats reported moderate catches of about 150 fish per day in the Gorda Sea Valley from Eureka to Cape Mendocino also on August 24. The fishing in northern California waters improved during the last week of August and many boats that had been fishing off San Francisco moved up to Point Arena and north. By August 31, high scores of 400 fish were reported with most boats catching 200-250 fish per day. The fleet fishing the district from Punta Gorda to Cape Vizcaino reported best fishing in 59° F water, although temperatures as high as 63° F are in the area. Albacore caught in northern California waters are averaging 13 to 16 pounds.

On August 28 a new area of fish was reported 50 miles outside Davidson Seamount and by August 31 a small fleet had gathered there. Scores in this area, although somewhat lower than between Point Arena and Cape Mendocino, have been 75-150 fish per day with highs up to 300 fish.

Albacore were reported over a large area along a tight temperature gradient of 57-63° F, 120-160 miles offshore of San Francisco on August 22 and fishing there remained good until about August 27. Scores in this area averaged 350-500 fish per day and many boats reported catching more than 700 fish on some days. The fish sizes were mixed, from 10-40 pounds, with about a 14-16 pound average.

Excellent jig fishing, with some 1000 fish scores and many 600 fish scores, was reported on August 18 in the area near the compass rose outside San Juan Seamount. A large fleet of jig boats gathered in the area from Rodriquez Dome to San Juan Seamount to about 80 miles southwest of Point Arguello and many boats reported 500-600 scores on August 19. Good fishing, on 11-15 pound albacore, continued in this area, with catches averaging 250-300 fish per day until about August 23. By August 25, most of the fleet that had been fishing here moved northward to Point Arena and San Francisco because of poor fishing and high winds.

Fair catches, of about 80-100 albacore per day, continued to be taken, mostly by bait boats, in the vicinity of the 213 fathom spot and the dumping grounds southwest of San Diego until about August 27, when fishing slowed. Albacore caught in this district have averaged 20-25 pounds, which is much larger than fish which have been caught this year from other areas along the U.S. west coast. Many of the albacore caught off San Diego during August have been from waters above 70° F. Incidental catches of skipjack and yellowfin tuna have also been reported recently from the San Diego area.

Fair to very good bait boat fishing has been reported off Oregon and southern Washington, but jig fishing there has been poor. Most of the bait boat activity has been centered within 60 miles of the coast between Newport and Grays Harbor. Bait catches in the Northwest have averaged as high as 500-600 fish per day, and one bait boat reported catching 20 tons of albacore between the Columbia River and Grays Harbor on August 20. The fish are averaging 15-20 pounds. Most of the larger California bait boats are fishing off Oregon and Washington. Except for moderate catches taken near the dumping grounds off the Columbia River on August 19 and 24, jig fishing off Oregon has averaged only about 20 fish per day.

California albacore landings for August should total about 2500 tons which is about 2-1/2 times higher than California landings for August last year. About 600 tons of the August total were landed in San Diego, with most of the remainder going to northern California ports. According to the Oregon Fish Commission, preliminary landings figures for Oregon for August are about 3500 tons. Most of the albacore landed in Oregon in August was caught by jig boats during July before they departed Pacific Northwest waters. The total U.S. west coast albacore landings for 1970 are about 10,000 tons. This is slightly below the long-term average and about 3000 tons below last year for this time.

The predominant weather feature during the last 2 weeks of August has been the persistent moderate to strong north-northwesterly winds all along the U.S. west coast. These winds have caused intense upwelling and much colder than normal sea surface temperatures near shore from the Columbia River south to Point Arena. Less intense upwelling occurred south of Point Arena along the central California coast, however, sea surface temperatures in this area are still 1-3° F below the long-term average and the temperatures for the same period last year. Offshore northern

and central California, sea surface temperatures have warmed at a greater than normal rate, causing a strong temperature gradient to develop from the coast out to longitude 126° W between Cape Blanco and San Francisco. The tightest gradient is located between Point St. George and Point Arena, and it is in this area that the best jig fishing has developed.

These north-northwesterly winds have been caused by a ridge of high pressure located over the eastern Gulf of Alaska and the Pacific Northwest and a well developed thermal trough over the interior regions of the Pacific Southwest. Although several breaks in this pattern occurred during the past 2 weeks, none of them lasted long enough to have any pronounced effect.

Sea surface temperatures off Washington and Oregon west to 130° W are from 1-5° F below the long-term average and temperatures for the same period in 1969. The seasonal cooling in this region which usually begins in the middle of September has started 2-3 weeks earlier this year and will continue as late summer-early fall storm systems in the Gulf of Alaska move eastward over western Canada and the Pacific Northwest.

The Extended Forecast Division of the Weather Bureau expects a deeper than normal upper level trough to develop over the eastern Gulf of Alaska, western Canada and the Pacific Northwest during the first 2 weeks of September. This condition will allow storm fronts to move into Washington and Oregon causing moderate south-southwesterly winds offshore from Cape Flattery south to Cape Blanco. Above normal temperatures are expected to continue over the Pacific Southwest creating a well developed thermal trough over the inland desert and valley regions of California. This trough in conjunction with high pressure off California will cause the moderate to strong north-northwesterly winds to continue blowing from Cape Blance south to outside the Channel Islands off southern California.

The offshore area between Eureka and Cape Mendocino holds the most promise for best jig fishing during the next 2 weeks, providing weather conditions continue to permit fishing effort. The central California district between Point Conception to San Francisco also has good potential. Bait fishing in the Pacific Northwest may not continue at present levels because of decreasing water temperatures.

For more detailed albacore information off the Oregon coast please see Oregon State University Albacore Central Fish Bulletins 70-I and 70-J. These materials should be available through most of the same outlets as the BCF Fish Bulletins.

September 1, 1970

Staff, Fishery-Oceanography Group
R. Michael Laurs, Leader